CLIMATE BENEFITS OF NAJD



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SUBMITTED TO: **(***PROF. HISHAM MORTADA***)**

REQUIREMENT FOR THE COURSE: ARCHITECTURE AND HERITAGE OF SAUDI ARABIA

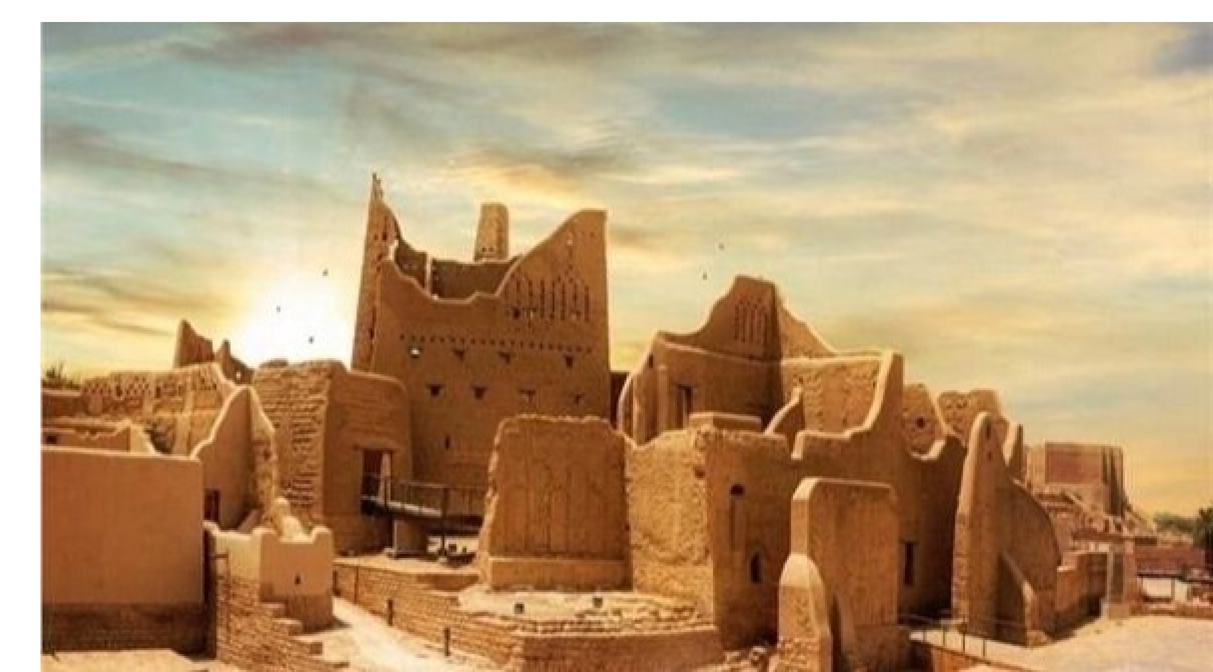
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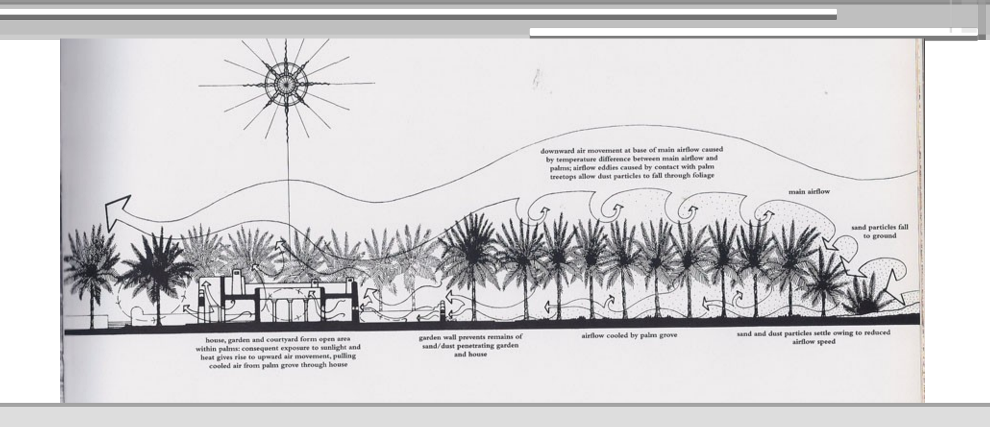

Dallah Albaraka

Decades ago, the people of the Najd region lived in the desert, and the building sources were few and unavailable, and they depended on mud and palm fronds, which helped them adapt to this desert .environment





: The palms trees



The palm trees helped reduce the temperature and also add aesthetic to the building The air was cooled as it swept through the shaded areas under the palms. Upon reaching the garden, walls kept any remaining dust and sand from entering the house olso Palm trees are an essential element in the urban construction of the Najd region

:The mud

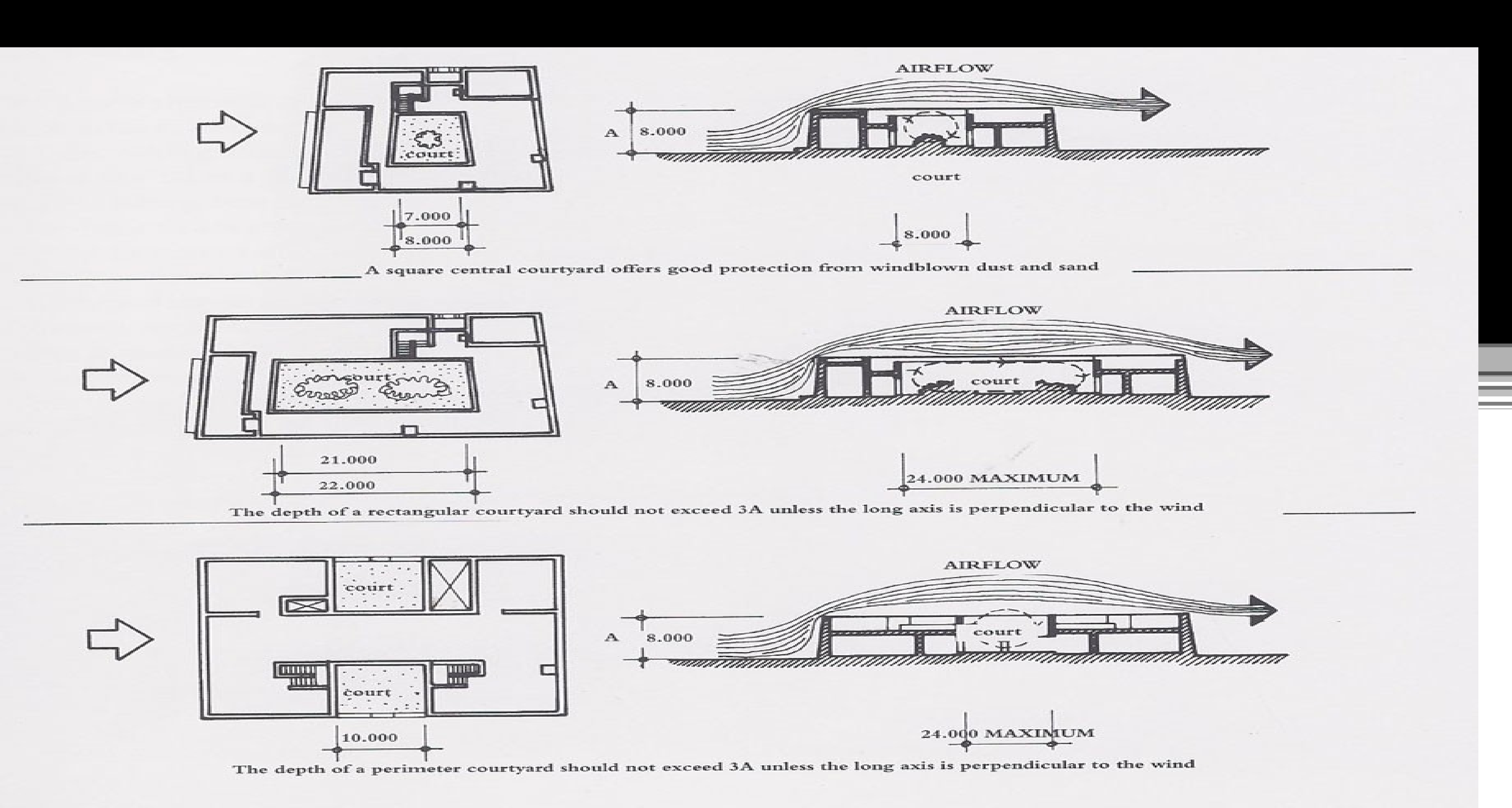


- The mud construction is suitable for desert areas and continental climates, (where the sun's heat and the lack of rain dwell in the rain) Ground projects the initial foundations for the building
- Form

:The mud construction is made of 3 types .

- The first: the veins / and it is by fermenting the mud with water from the night and early in the morning a competent and strong man mixes the clay with the hay and stirs the mixture and .turns it until it is sticky and coherent and ready
- The second: allaban, after fermenting the mud and then mixing it with the hay, there will be Mixture, which is a wooden block whose lengths are up to 20 x 30 cm and a height of 8 cm
- The third: This is a simplified type of construction that does not require any skill, rather it is done by everyone, which is to put stones and clay between them to hold together, and this type is for those whose financial capacity is low, and as the yards work with them for cattle and others

:Courtyard and airflow



Courtyard and airflow

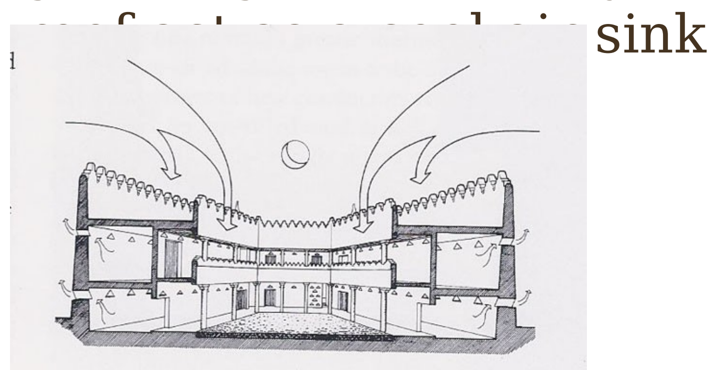
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Besides surrounding the house with walls, central courtyards are a key feature of these mud houses. The wind passing over creates a low-pressure zone in the courtyard. This sucks in eddies but the low-pressure is counteracted by well-placed apertures in the rooms into the .courtyard

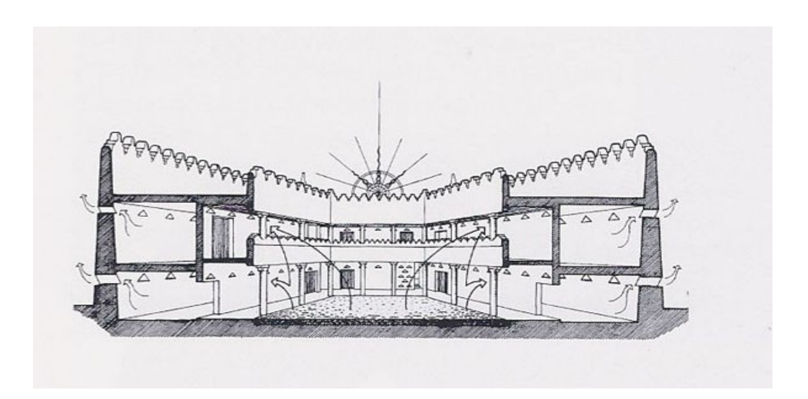
During the day, the sun heats the courtyard. Warm air rises creating a chimney effect and pulls breeze through the rooms.



During the night, the courtyard and roof act as a cool air sink



In the evening, the courtyard and buildings retain heat then give it off as the night air cools.



.Doors

Doors: They are made of wood for its strength and resistance to climatic conditions, and in Najd cities they decorate and color and have a channel to open and close, usually from (inside) and whoever wants to open the door enters his hand from the (nook) and opens it, and the niche is a small opening next to the door Enough to enter the hand. Some large doors are made of palm tree trunks, after flattening and cutting them into large and rectangular pieces, surrounded on the sides by wood that .is better for their knitting and cohesion

